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ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST

CAMBODIA, LAOS, THAILAND AND VIET-NAM

Committee for Coordination of Investigations
of the Lower Mekong Basin

# THE UPPER SREPOK INVESTIGATION PROJECT

# (KRONG BUK IRRIGATION SCHEME)

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# I. INTRODUCTION

1. At the Special Session of the Committee for Coordination of Investigations of the Lower Mekong Basin (hereinafter referred to as "the Committee") which was held at Bangkok in December 1958, the Government of Japan expressed its willingness to assist the Committee in undertaking the reconnaissance of major tributaries of the Lower Mekong Basin. The offer was made as a contribution to the Comprehensive Investigation Programme of the Lower Mekong Basin which is implemented by the Committee. The Committee gratefully accepted the offer.

2. The work under the Project was commenced in December 1958 and the requisite field work had been completed by the end of 1960. The final report was submitted to the Fifteenth Session of the Committee held in Bangkok in October 1961.

3. In the meantime three interim reports on the progress and outlook of the work have been submitted to the Committee during the course of the reconnaissance. The first of these reports contained a recommendation that the Committee consider to take up at an early date detailed investigations of the eight tributary basins deemed to offer particularly promising prospects of development. Following this recommendation the Committee decided in the course of its Fifth Session in June 1959 to submit to the United Nations Special Fund a request for assistance in detailed surveys of four of the tributary basins listed in the Japanese report, and further expressed its desire to seek cooperation from national governments and other agencies for the implementation of similar projects in the four remaining tributary basins.

4. At the Eleventh Session of the Committee which took place at Vientiane in November 1960, the Government of Japan informed the Committee that it was prepared to extend an assistance for a hydrologic investigation of the Upper Srepok, Viet-Nam, selected from among the four remaining tributaries referred to above, and the Government of Japan had undertaken the hydrologic investigation with its 1961-year budget of 840,000 yen.

/ 5. Subsequently,

5. Subsequently, the Committee eagerly requested the Government of Japan for the investigation of the Upper Srepok at its Seventeenth Session held at Tokyo in March 1962. In view of this request, the Government of Japan had undertaken the investigations of the Upper Srepok - limited to the irrigation scheme of the low-lying marshy area in the Dar Lac region — with its 1962-year budget. The preliminary design is now underway in Tokyo.

6. In view of real necessity of the development of the Upper Srepok basin, the Committee urged the Government of Japan to continue its effort by undertaking the investigations of another project, the Krong Buk project located upstream of the low-lying Dar Lac region. In response to this further request, the Government of Japan has decided to undertake the investigations and preliminary design of the Krong Buk irrigation scheme with its 1963-budget. In this work, a general development plan for the Upper Srepok basin as a whole will also be studied on the basis of the investigations that have been made so far.

7. The actual work of this Project is to be implemented by the Overseas Technical Cooperation Agency (OTCA) which is an executive agency of the Government of Japan.

8. The present document sets forth a Plan of Operation for the investigations of the irrigation scheme of the Krong Buk area in the basin of the Upper Srepok to be undertaken by the Government of Japan in cooperation with the Government of Viet-Nam and the Committee.

## II. GENERAL DESCRIPTION OF THE PROJECT

9. The Srepok is one of the main tributaries of the Mekong. It rises in the Annam Cordillara and flows through the highland of Viet-Nam and then passes through the Cambodian plain to drain into the Mekong near Stung Treng with two other large tributaries, the Se Kong and the Se San. It has an overall length of about 390 Km and a total catchment area of about 31,000 $Km^2$.

/10. According to

10. According to the reconnaissance of major tributaries of the Mekong which was undertaken by the Government of Japan, it is indicated that the upper part of this river (about 17,800 $Km^2$ in Viet-Nam territory) is composed mainly of fertile soil so that there is a possibility of agricultural development. Moreover, the Government of Viet-Nam is now energetically promoting the policy to establish a large agricultural settlement in this area. In this light, the development of the Upper Srepok is considered to be important and significant.

11. In the development plan of the Upper Srepok there are six projects for power or irrigation or both. Among them, the highest priority is given to the irrigation and drainage project of the low-lying marshy land in the Dar Lac region. The field investigations of this project were undertaken by the Japanese team during Japan's fiscal year 1962.

12. The Krong Buk area which is situated upstream of the low-lying Dar Lac region is traversed by National Highway No.21 and is being opened up for new communities. This fact makes the development of this area in the highland of Ban Me Thuot District a priority undertaking.

Moreover, it is anticipated that the development of this area will make it possible to reduce the flood damage in the area just upstream of the Dar Lac region and also to facilitate the development of the downstream low lands. The Krong Buk project is mainly an irrigation scheme and it will have a beneficial effect on the development of the Dar Lac region in the future.

## III. PURPOSE AND SCOPE OF WORK

13. The Project aims at the preparation of a Comprehensive Project Feasibility Report, including required survey works in the project area. The Project covers the following scope of work :

A. Project Investigation

(1) Survey

/Profile levelling

Profile levelling along the rivers and topographic survey of the proposed damsite, mainly for the Krong Buk.

(2) Geological investigation

Geological boring along the proposed dam axis mainly for the Krong Buk and investigations for the dam embankment materials.

(3) Agricultural investigations

Sampling and analysis of soil of the irrigable area and agronomic investigations.

(4) Hydrologic investigation

Collection of meteorological and hydrological data.

Observation of river stages and measurement of stream discharge during the survey period.

B. Aerial mapping

Aerial mapping of the area necessary for irrigation planning to a scale of 1 to 20,000 with contour intervals of 1 m for plain area and 5 to 10 m for steep area.

C. Project planning

(1) Collection and analysis of the abovementioned data.

(2) Study on irrigation and drainage method, and layout of main canals and distribution system.

(3) Study on flood control and its related structures.

D. Project design (not including detailed construction design)

(1) Design of intake weirs, appurtenant structures and pumping stations if any.

(2) Design of irrigation structures and main canals, and preliminary design of distribution system.

(3) Design structures for flood control.

(4) Selection of type and rating of pumps and accessories, if necessary.

(5) Preparation of construction schedule.

/E. Project evaluation

E. Project Evaluation

(1) Estimated cost of construction of the project broken down into estimated annual budgets (local as well as foreign currencies).

(2) Estimated amount of loan and interest rate (foreign currency only), period of loan and recommended repayment schedule.

(3) Assessment of benefits to be derived from the project.

(4) Economical justification.

F. Preparation of Comprehensive Project Feasibility Report

Preparation of a comprehensive project feasibility report in a form acceptable to a financial institution as an application for development loan.

## IV. PRIVILEGES, IMMUNITIES AND FACILITIES

14. The Japanese members of the survey team to be organized to carry out the present Project (hereinafter referred to as "the Team") shall be entitled to the following privileges and immunities:

(a) Immunity for legal process in respect of all acts performed by them in the execution of the Project;

(b) Immunity from national service obligations;

(c) The privilege of bringing into the country reasonable amounts of foreign currency for the purpose of the Project or for personal use of such members, and of withdrawing any such amounts brought into the country, or in accordance with the relevant foreign exchange regulations, such amounts as may be earned therein by such members in the execution of the Project;

(d) Immunity from immigration restrictions;

(e) The same repatriation facilities in the event of international crises as diplomatic envoys; and

(f) Inviolability for all papers and documents relating to the Project.

/15. The Government

15. The Government shall either exempt or bear the cost of any taxes, duties, fees or levies which may be imposed by it on the Team or its Japanese members in respect of:

(a) The salaries, wages or allowances earned by such members in the execution of the Project;

(b) Any equipment, materials and supplies brought into the country in connection with the Project or which after having been brought into the country, may be subsequently withdrawn therefrom; and

16. The privileges and immunities (except for the immunity under 14 (b) above to which the Team and its personnel are entitled may be waived by the Government of Japan, where in its opinion, such privileges and immunities would impede the course of justice and can be waived without prejudice to the successful completion of the Project or to the interest of the Team.

17. In the preceding paragraphs of this Chapter, "the Government" refers to either one or more of the Governments of Cambodia, Laos, Thailand and Viet-Nam to which the respective paragraphs may become applicable in their context during the course of the execution of the Project. Similarly, "the country" refers to either one or more of the territories of Cambodia, Laos, Thailand and Viet-Nam.

18. Subject to a separate arrangement the Committee shall take necessary measures to make available to the Team part of the petroleum and other mineral oils contributed by the Government of Iran.

19. The Government of Viet-Nam and the Committee shall take all necessary steps to make available to the Team in time for the execution of the Project, the data, materials and reports on collateral investigations and studies being carried out at present or proposed to be carried out in the future, including maps and aerial photographs.

/20. The Government

20. The Government of Viet-Nam shall provide as a counterpart the following employees and facilities so as to be made available to the Team whenever necessary after 1st October 1963.

| | | | | Piastres equivalent |
|---|---|---|---|---|
| (a) | Employees | | | |
| | (i) Jeep driver | 3 persons | 70 days | 31,500 |
| | (ii) Truck driver | 2 persons | 30 days | 12,000 |
| | (iii) Labourer for geological boring | 15 persons | 60 days | 45,000 |
| (b) | Facilities | | | |
| | (i) Rent of jeep | 3 cars | 70 days | 210,000 |
| | (ii) Rent of Truck | 2 cars | 30 days | 120,000 |
| | (iii) Repairing of rented vehicles | 5 cars | | 50,000 |
| | (iv) Field office for engineers (about 50 m2 in space) (Ban Me Thuot) | 1 office | | 25,000 |
| | (v) Field camp house for labourers (for about 20 persons) (Ban Krong Buk) | 2 houses | | 20,000 |
| | Total | | | 513,500 |

In case it is difficult to provide the above mentioned employees and facilities the Government of Viet-Nam shall provide in cash the sum of 513,500 piastres which is equivalent to the above.

The Government of Viet-Nam shall pay the above sum to the Team leader or a person designated by him through the Japanese Embassy in Saigon, whenever necessary after 1st October 1963.

/ V.

## V. COMPLETION OF THE PROJECT

21. The Project including the preparation of the report is expected to be completed within ten months from the commencement of operations. However, it is understood that the timing of the completion shall be dependent upon the availability of data.

## VI. SIGNATURES

22. Agreed on behalf of the Parties by the undersigned:

Date: 22 November 1963 — Khiou Bonthonn, For the Government of Cambodia

Date: 22 November 1963 — Oukéo Souvannavong, For the Government of Laos

Date: 22 November 1963 — Boonrod Binson, For the Government of Thailand

Date: 22 November 1963 — Trinh-Ngoc-Sanh, For the Government of the Republic of Viet-Nam

Date: 21 October 1963 — Keisuke Arita, For the Government of Japan

Date: 21 October 1963 — C. Hart Schaaf, Executive Agent to the Committee for Coordination of Investigations of the Lower Mekong Basin